

a first actuating coil set connected to said object and arranged around said magnetic force line generator with a coil wall thereof substantially perpendicular to said first substantially linear portion for moving said object in said first direction in response to a first current density therein and said first substantially linear portion; and

a second actuating coil set connected to said object and located at the lateral end of said magnetic force line generator with a coil wall thereof substantially perpendicular to said second substantially linear portion for moving said object in said second direction in response to a second current density therein and said second substantially linear portion, wherein said first and second actuating coil sets are not substantially parallel.

8. (Amended) An electromagnetic actuator for moving an object along a first direction and a second direction, comprising:

a first actuating coil set connected to said object for generating a first actuating force to move said object in said first direction in response to a first current therein and a first magnetic force;

a second actuating coil set connected to said object for generating a second actuating force to move said object in said second direction in response to a second current therein and a second magnetic force, wherein said first and second actuating coil sets are not substantially parallel; and

a magnetic force line generator including two spaced homopolar parts which is surrounded by said first actuating coil set, and sandwiched by said second actuating coil set for providing said first and said second magnetic forces for said first and said second actuating coil sets, respectively, by generating magnetic force lines due to a repelling force therebetween, wherein said first and second magnetic forces are not substantially parallel.

Cancel claims 15-26 without prejudice or disclaimer.